

Patent claims

1. A glass used as a sintering aid for a resorbable material comprising calcium phosphate, characterized in that the material is β -tricalcium phosphate and the glass has a chemical composition of 68-78% by weight SiO_2 , 5-12% by weight MgO and 12-27% by weight Na_2O .

2. A glass according to Claim 1, wherein said glass has a chemical composition of 73-78% by weight SiO_2 , 8-11% by weight MgO and 12-19% by weight Na_2O .

3. A glass according to Claim 1, wherein said glass has a chemical composition of 74-75% by weight SiO_2 , 8.5-10% by weight MgO and 14.5-17% by weight Na_2O .

4. A glass according to Claim 1, wherein said glass makes up 0.5-15% by weight while tricalcium phosphate makes up 85-99.5% by weight.

5. A glass according to Claim 4, wherein said glass makes up 4-8% by weight.

6. A method for manufacturing a resorbable moulded body comprising calcium phosphate, characterized in that a glass consisting of 68-78% by weight SiO_2 , 5-12% by weight MgO and 12-27% by weight Na_2O is melted, ground until a grain size D_{50} of 0.7-2 μm is achieved and mixed with β -tricalcium phosphate having a grain size D_{50} of 1-7.5 μm , the mixture is given the desired shape and the moulded body is produced by sintering said mixture at between 1,150 and 1,350°C and subsequently cooling it, with the proviso that the grain size of β -TCP must not be smaller than that of the glass.

7. A method according to Claim 6, wherein shaping is carried out

using the Schwartzwalder-Somers process or the free-form fabrication method.

8. An open-pore moulded body based on β -tricalcium phosphate, characterized in that said moulded body has a composition ranging between (in % by weight) 46.1 and 54.0 CaO, 38.9 and 45.5 P_2O_5 , 0.005 and 11.4 SiO_2 , 0.001 and 4.05 Na_2O and 0.0005 and 1.8 MgO and solely comprises β -tricalcium phosphate as a crystalline phase according to roentgenographic analyses.

9. An open-pore moulded body based on β -tricalcium phosphate (β -TCP), characterized in that said moulded body has a composition ranging between (in % by weight) 46.1 and 54.0 CaO, 38.9 and 45.5 P_2O_5 , 0.005 and 11.4 SiO_2 , 0.001 and 4.05 Na_2O and 0.0005 and 1.8 MgO and solely comprises β -tricalcium phosphate as a crystalline phase according to roentgenographic analyses and is manufactured by separately producing β -tricalcium phosphate and separately producing a glass consisting of 68-78% by weight SiO_2 , 5-12% by weight MgO and 12-27% by weight Na_2O , mixing 99.5-85% by weight β -tricalcium phosphate and 0.5-15% by weight glass, processing the mixture into a slurry in a usual manner, applying it onto an open-pore sponge and sintering it at between 1,150 and 1,350°C to obtain after cooling the moulded body, with the proviso that the grain size of β -TCP is 1-7.5 μm , the grain size of the glass is 0.7-2 μm and the grain size of β -TCP must not be smaller than that of the glass.